Attorney Docket No. 69344-A

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Application No.	: 10/815,602
Applicant	: FERREIRA, Adriano M. P.; et al.
Filed	: March 31, 2004
For	: ALLOYS FROM RECTYCLED ALUMINUM SCRAP CONTAINING HIGH LEVELS OF IRON AND SILICON
Group Art Unit	: 1742
Examiner	: COMBS-MORILLO, Janelle

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DECLARATION UNDER 37 C.F.R. § 1.132

I, Sadashiv K. NADKARNI, hereby declare that:

1. I am an employee of Novelis, Inc., the assignee of the present application, and one of the two joint inventors named in the present application.

2. Details of my education, training and experience are provided in attached Exhibit A.

3. I have read the final Official Action dated October 3, 2007, together with the references cited therein, namely US patent 5486243 to Hashiguchi et al., and ASM Desk Editions p. 1.

4. The Examiner has rejected claims 9 – 13 as obvious over the combination of the two cited references. The rejected claims relate to a can end made of an aluminum

alloy having a specified composition. The Examiner supported this rejection by stating that Hashiguchi teaches an Al-Mg alloy composition falling within the claimed ranges. The Examiner admitted that Hashiguchi does not mention forming the Al-Mg alloy into can ends, but stated that it would have been obvious of one of ordinary skill in the art to form the 5xxx series Al-Mg-Fe-Si-Mn alloy with excellent formability and strength taught by Hashiguchi into can ends because ASM Desk Editions teaches that similar 5xxx series alloys are used for packaging foods and beverages, and that Aluminum alloys of the 3xxx and 5xxx groups are resistant to most foods and beverages ("ASM Desk Editions" p 1).

5. Up to the present time, can ends for aluminum beverage cans have exclusively been made from alloy AA 5182, a copy of the specification of which is hereby attached as Exhibit 2. This means that the Fe content has been limited to a maximum of 0.35 wt.%, and the Si content has been limited to a maximum of 0.2 wt.%. The reason for this was that no-one was able to produce can ends having the required physical characteristics with Fe and Si levels above the stated limits. This is stated in the introduction of the present application on page 1, lines 19 to 29.

6. This has meant that recycled aluminum used for the manufacture of can ends has had to be carefully selected and controlled to ensure that the Fe and Si levels are no higher than those specified. Essentially, beverage cans have had to be kept separate from other aluminum scrap for recycling back to beverage can production. This makes the recycling operation more difficult and expensive.

7. For this reason, no-one in the industry would have considered using the alloy of Hashiguchi et al. for the production of beverage can ends, or at least those examples of the alloy containing more than 0.35 wt.% Fe and 0.2 wt.% Si. Persons skilled in the art would have regarded such alloys as unsuitable for the reasons given above, i.e. the expectation that can ends with required physical properties could not have been obtained from such alloys. Scrap from such alloys would have been avoided.

8. The contribution made by myself and my co-inventor was the unexpected finding that alloys with higher levels of Fe and Si could be made into can ends having the required physical properties, provided the ratio of Fe to Si was strictly controlled. This made it possible to use a broader range of aluminum scrap to form the can ends. However, until this unexpected finding had been made, the selection of metals disclosed by Hashiguchi et al. for can end production would not have been obvious. Hashiguchi et al. does not disclose or in any way hint at the importance of selecting particular Fe to Si ratios in allowing the use of higher amounts of Fe and Si in alloys intended for can end manufacture. Without such information or knowledge, the alloys of Hashiguchi et al. would have been regarded as completely unsuitable for can end production. The alloys of Hashiguchi et al. only seem relevant, if they seem relevant at all, with the benefit of this hindsight.

9. In rejecting the claims, the Examiner cited ASM Desk Editions p 1. This reference states that aluminum alloys of the 3xxx and 5xxx series are resistant to most

foods and beverages and are consequently used for cooking utensils and the commercial handling and processing of foods. However, the reference does not state that all 3xxx and 5xxx alloys have physical properties that make them useful as can ends. In fact, to the contrary, the reference confirms what has been explained above by stating that can ends are generally produced from alloy AA5182. Therefore, if indeed it is proper to consider the teachings of Hashiguchi et al. and the ASM Desk Edition disclosure together (which does not seem appropriate to me as these two references relate to quite different end uses for various aluminum alloys), the significance to a person skilled in the art would be that you may use the alloys of Hashiguchi et al. for the production of can ends, but only if the alloys fall within the specification of AA5182. Thus, there would be no reason for a person skilled in the art to see Hashiguchi et al. as any more relevant than the reference when taken alone.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Sadashiv K. NADKARNI

Date: 12/16/07

EXHIBIT A

Education, Training and Experience of Declarant Sadashiv K. Nadkarni

Education: B. Tech. (Chemical Engineering) I.I.T. Bombay 1967

Experience:
1967-1981 - Indian Aluminum Company (Last position: R&D superintendent)
1981-1995 – Alcan Aluminum Company (Last position: Senior scientist)
1995-2005 - Alcan Rolled Products (Last position: Senior Research engineer)

Achievements: 25 US patents granted

Developed processes for manufacture of advanced ceramics, developed coating processes for aluminum, developed new alloys

Other training

Management training at Xavier Labor Relations Institute and Alcan courses
Training in experimental design, statistical evaluation of results